

**Amendments to the Claims:**

This list of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

Claim 1 (currently amended): An electronic control unit for a multiple fuel engine utilizing a first fuel and a second fuel, the electronic control unit comprising:

- a. means for inputting operating characteristics of an electronically controlled engine system to the electronic control unit, wherein at least one of the operating characteristics comprises gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, or engine coolant temperature; [[and]]
- b. means for communicating with the engine system by a data link;  
and
- c. means for controlling amounts of the first fuel and the second fuel for delivery to the multiple fuel engine based on at least one of the operating characteristics.

Claim 2 (original): The electronic control unit of Claim 1, further comprising:

- a. means for determining governing characteristics for multiple fuel operation based on the operating characteristics of the engine system; and
- b. means for controlling amounts of the first fuel and the second fuel for delivery to the multiple fuel engine based on the governing characteristics.

Claim 3 (original): The electronic control unit of Claim 1, wherein the operating characteristics comprise at least two of the operating characteristics selected from the group consisting of gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, and engine coolant temperature.

Claim 4 (original): The electronic control unit of Claim 1, wherein the operating characteristics comprise at least three of the operating characteristics selected from the group consisting of gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, and engine coolant temperature.

Claim 5 (currently amended): The electronic control unit of Claim 1, wherein the operating characteristics comprise ~~at least~~ all four of the operating characteristics selected from the group consisting of gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an engine intake manifold, and engine coolant temperature.

Claim 6 (original): The electronic control unit of Claim 1, wherein the at least one operating characteristic comprises the gas pressure of the second fuel.

Claim 7 (original): The electronic control unit of Claim 1, wherein the at least one operating characteristic comprises the gas temperature of the second fuel.

Claim 8 (original): The electronic control unit of Claim 1, wherein the at least one operating characteristic comprises the boost pressure of the engine intake manifold.

Claim 9 (original): The electronic control unit of Claim 1, wherein the at least one operating characteristic comprises the engine coolant temperature.

Claims 10-13 (canceled)

Claim 14 (currently amended): The electronic control unit of Claim ~~[[12]]~~ 1, wherein the operating characteristics further comprise ambient temperature, ambient pressure, manifold temperature and/or manifold pressure.

Claim 15 (original): The electronic control unit of Claim 1, wherein the first fuel comprises diesel.

Claim 16 (original): The electronic control unit of Claim 1, wherein the first fuel comprises gasoline.

Claim 17 (original): The electronic control unit of Claim 1, wherein the second fuel is gaseous.

Claim 18 (original): The electronic control unit of Claim 1, wherein the second fuel comprises natural gas.

Claim 19 (original): The electronic control unit of Claim 1, wherein the second fuel comprises propane.

Claim 20 (original): The electronic control unit of Claim 1, wherein the second fuel is a liquid.

Claim 21 (currently amended): A method for controlling delivery of fuel to a multiple fuel engine utilizing a first fuel and a second fuel, the method comprising:

- a. providing an electronic control unit;
- b. inputting operating characteristics of an electronically controlled engine system to the electronic control unit, wherein at least one of the operating characteristics comprises gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, or engine coolant temperature; [[and]]
- c. communicating with the engine system by a data link; and
- d. controlling amounts of the first fuel and the second fuel for delivery to the engine based on at least one of the operating characteristics.

Claim 22 (original): The method of Claim 21, further comprising:

- a. determining governing characteristics for multiple fuel operation based on the operating characteristics of the engine system; and
- b. controlling amounts of the first fuel and the second fuel for delivery to the multiple fuel engine based on the governing characteristics.

Claims 23-26 (canceled)

Claim 27 (original): The method of Claim 25, wherein the operating characteristics further comprise ambient temperature, ambient pressure, manifold temperature and/or manifold pressure.

Claim 28 (currently amended): A method for calibrating an electronic control unit for a multiple fuel engine utilizing a first fuel and a second fuel, the method comprising:

- a. inputting operating characteristics of an electronically controlled engine system to the electronic control unit;
- b. determining governing characteristics for multiple fuel operation based on the operating characteristics; [[and]]
- c. communicating with the engine system by a data link; and
- d. controlling amounts of the first fuel and the second fuel for delivery to the engine based on the governing characteristics.

Claim 29 (original): The method of Claim 28, wherein at least one of the operating characteristics comprises gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, or engine coolant temperature.

Claims 30-33 (canceled)

Claim 34 (original): The method of Claim 28, wherein at least one of the operating characteristics comprises ambient temperature, ambient pressure, manifold temperature, or manifold pressure.

Claim 35 (original): The method of Claim 28, wherein the first fuel comprises diesel.

Claim 36 (original): The method of Claim 28, wherein the first fuel comprises gasoline.

Claim 37 (original): The method of Claim 28, wherein the second fuel is gaseous.

Claim 38 (original): The method of Claim 28, wherein the second fuel comprises natural gas.

Claim 39 (original): The method of Claim 28, wherein the second fuel comprises propane.

Claim 40 (original): The method of Claim 28, wherein the second fuel is a liquid.

Claim 41 (currently amended): A method for converting an electronically controlled engine system of a vehicle to a multiple fuel engine utilizing a first fuel and a second fuel, the method comprising installing an electronic control unit on the vehicle, wherein the electronic control unit comprises:

a. means for inputting operating characteristics of the engine system to the electronic control unit, wherein at least one of the operating characteristic comprises gas pressure of the first fuel, gas temperature of the second fuel, boost pressure of an intake manifold, or engine coolant temperature; [[and]]

b. means for communicating with the engine system by a data link;  
and

c. means for controlling amounts of the first fuel and the second fuel for delivery to the multiple fuel engine based on at least one of the operating characteristics.

Claim 42 (original): The method of Claim 41, further comprising mounting a storage tank for the second fuel on the vehicle and installing a second fuel line in flow communication between the storage tank for the second fuel and the engine.

Claim 43 (currently amended): A multiple fuel electronically controlled engine system utilizing a first fuel and a second fuel, the multiple fuel engine system comprising an engine, a storage tank for the first fuel, a first fuel line in flow communication between the storage tank for the first fuel and the engine, a storage tank for the second fuel, a second fuel line in flow communication between the storage tank for the second fuel and the engine, and an electronic control unit comprising:

a. means for inputting operating characteristics to the electronic control unit, wherein at least one of the operating characteristics comprises gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, or engine coolant temperature; [[and]]

b. means for communicating with the engine system by a data link;  
and

c. means for controlling amounts of the first fuel and the second fuel for delivery to the multiple fuel engine based on at least one of the operating characteristics.

Claim 44 (original): A computer readable medium containing instructions which, when executed by a processor, performs a method for operating a multiple fuel engine utilizing a first fuel and a second fuel, the method comprising:

a. inputting operating characteristics of an engine system to an electronic control unit;

b. determining governing characteristics for multiple fuel operation based on the operating characteristics; and

c. controlling amounts of the first fuel and the second fuel for delivery to the engine based on the governing characteristics.

Claim 45 (original): The computer readable medium of Claim 44, wherein at least one of the operating characteristics comprises gas pressure of the second fuel, gas temperature of the second fuel, boost pressure of an intake manifold, or engine coolant temperature.